EIRP Limits for PCS & AWS Base Stations
2002 Biennial Review Proceeding
WT Docket No. 03-264

Presentation to Fred Campbell

Office of Chairman Kevin Martin

by

CTIA – The Wireless Association®

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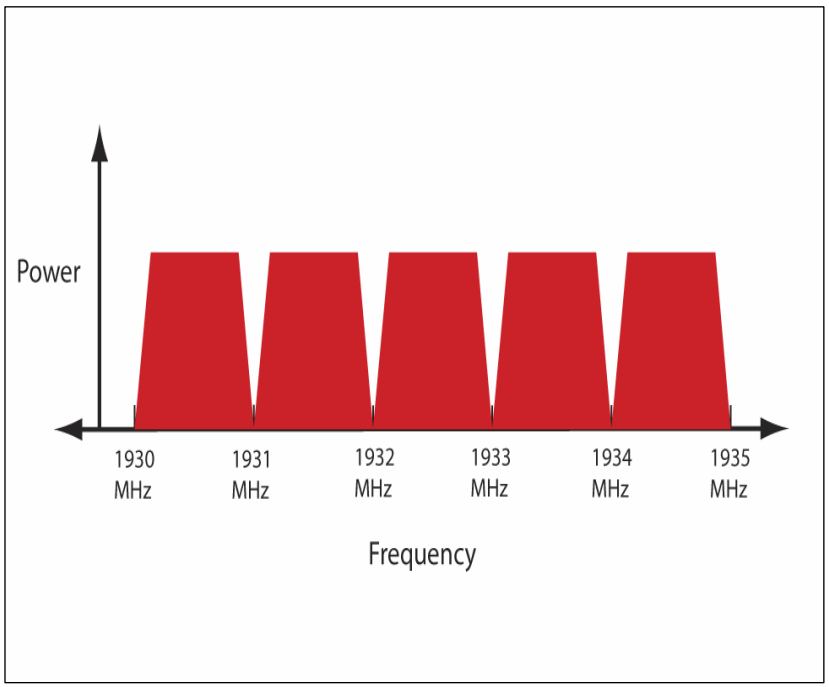
Equivalent Isotropically Radiated Power ("EIRP") Limits for PCS & AWS Base Stations

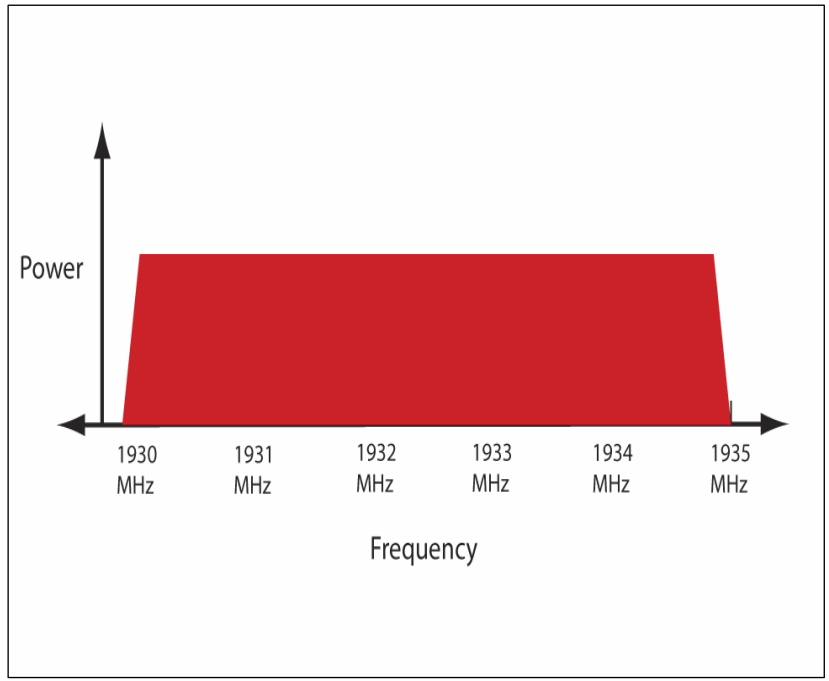
- CTIA proposes to supplement current EIRP limits for Part 24 Broadband PCS and Part 27 AWS with a power spectral density limit.
- CTIA's proposal:
  - Would eliminate an artificial constraint on deployment of wideband technologies.
  - Would change the economics of mobile wireless broadband deployment in rural areas by enabling providers utilizing certain technologies to install fewer base stations over larger geographic areas.
  - Would not increase the power limits afforded current narrowband technologies.
- CTIA's proposal is supported by carriers and manufacturers across technology platforms.

The Current Rules Artificially Constrain Wider Band Technologies

- The illustrations below show similar spectrum occupancy patterns – one which is permitted and the other which is prohibited under current rules. The industry's proposal would address this inequity.



Permitted



Prohibited

CTIA Proposal

- Rather than increase existing base station power limits, modify the rule to allow base stations to transmit at either (1) the current limits, or (2) a comparable power spectral density. A power spectral density limit is a per MHz power limit, rather than a per emission power limit.
- A power spectral density limit would facilitate use of new (wideband) technologies that are restricted under the current rule.
- This proposal provides flexibility to deploy new technologies without causing harmful interference to neighboring systems.

CTIA Proposal (cont'd)

- For antenna heights up to 300 meters HAAT, base stations should be limited to the greater of:
  - 1640 watts average EIRP per carrier; or
  - 3280 watts/MHz average EIRP.
- The proposal is consistent with the power spectral densities permitted under current rules, *i.e.,* operation of individual carriers at 1640 watts EIRP:
  - A GSM system with two carriers in 1 MHz can generate a signal with 3280 watts EIRP/MHz
  - A system with three carriers in 1 MHz would generate 4920 watts EIRP/MHz.

CTIA Proposal (cont'd)

- In rural areas, for antenna heights up to 300 meters HAAT, base stations should be limited to the greater of:
  - 3280 watts average EIRP per carrier; or
  - 6560 watts/MHz average EIRP.
- CTIA is not recommending that the per-MHz constraints for antennas above 300 meters exceed the current constraints.

CTIA Proposal (cont'd)

- The Commission should replace the reference to "peak" radiated power limits in current rules with "average" to make the rules more consistent with developments in technology and industry practice.

- The Commission should adopt these changes in sections 24.232 and 27.50 of the FCC's rules.